

MESSAGE LOGGING FOR RELIABLE MULTICASTING  
ACROSS A ROUTING NETWORK

Abstract of the Disclosure

5 A technique for reliably multicasting a message within  
a router network is provided. At least one special router  
in the network has associated persistent storage for logging  
a message being routed to one or more clients. When a  
message is received at this logger node, the logger places  
the message in persistent storage and sends a logging  
10 acknowledgment back to those routers to which the message  
was originally routed, as well as back towards the source of  
the message. The logger acknowledgment includes the message  
id, the logger id, and a logging number. When the logger  
acknowledgment is received by a router, it looks up the  
15 routing information from the original message, and sends the  
acknowledgment to those neighboring routers to which the  
original message was sent, excluding the link from which the  
logger acknowledgment was received. If the original message  
corresponding to the logger acknowledgment was buffered at  
20 this router waiting to be delivered, the message is then  
delivered to its client nodes. Processes for recovering  
from node or link failure within the router network, and for  
at most once delivery of messages, at least once delivery of  
messages, and exactly once delivery of messages are also  
25 provided.